

## 22C:16 Quiz 10

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The two problems in this quiz involve writing a little bit of code - 4-6 lines each. If you see yourself writing too much, it is time to stop and think. Turn the page for the second problem.

1. You are given a dictionary whose keys are strings and whose values are positive integers. You may think of the keys as words in English and the associated values as corresponding frequencies. Here is an example dictionary - let us call this D:

```
{ "hello":10, "hi":11, "good":10, "bye":8, "ciao":10 }.
```

Write a function called `invertDictionary` that takes such a dictionary and constructs from it a new dictionary whose keys are the values in the given dictionary and whose values are lists of words that have the corresponding frequency. For example, the call `invertDictionary(D)` should return the dictionary:

```
{ 11:["hi"], 8:["bye"], 10:["hello", "good", "ciao"] }.
```

2. You are given a dictionary whose keys are strings and whose values are positive integers. You may think of the keys as words in English and the associated values as corresponding frequencies. Here is an example dictionary - let us call this D:

```
{ "hello":10, "hi":11, "good":10, "bye":8, "ciao":10 }.
```

Write a function called `aggregateFrequencies` that takes such a dictionary and constructs from it a new dictionary whose keys are the first characters of the keys of the given dictionary and whose values are the total frequencies of all the strings that start with that particular character. For example, the call `aggregateFrequencies(D)` should return dictionary:

```
{ "h":21, "b":8, "g":10, "c":10 }.
```